Designing a Questionnaire for a Research Paper: A Comprehensive Guide to Design and Develop an Effective Questionnaire

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Abstract - **A questionnaire is an important instrument in a research study to help the researcher collect relevant data regarding the research topic. It is significant to ensure that the design of the questionnaire is arranged to minimize errors. However, researchers commonly face challenges in designing an effective questionnaire including its content, appearance and usage that leads to inappropriate and biased findings in a study. This paper aims to review the main steps to design a questionnaire introducing the process that starts with defining the information required for a study, then continues with the identification of the type of survey and types of questions, writing questions and building the construct of the questionnaire. It also develops the demand to pre-test the questionnaire and finalizing the questionnaire to conduct the survey.**
Keywords: **Questionnaire, Academic Survey, Questionnaire Design, Research Methodology**

I. INTRODUCTION

A questionnaire, as heart of the survey is based on a set of questions to gather data from respondents. Questions are the translated form of what researchers need for their study which can be addressed using the answers of the respondents. A questionnaire, as the main and the most dominant way of collecting primary and quantitative data, makes the process of data collection standardized together with comparable. Thus, it can ensure a faster and more accurate data collection process, and facilitate the data processing as well (Krosnick, 2018; Malhotra, 2006).

It is one of the most common ways of conducting surveys in different fields of study such as academic research, business organizations, and public institutions. It may seem a simple process initially; however, the responses can be very different or even unpredictable to cause many challenges in the procedure. Therefore, the appropriate design of the questionnaire can affect both the quality and quantity of the gathered data and therefore the results of the survey. Furthermore, a poor-designed questionnaire can lead to biases and different errors, and a good one can be the motive behind the respondents to provide the answers as accurate and adequate as possible.

On the other hand, a standardized format of questions is required to conduct interviews as it is vital to ask questions in the same way to the whole respondents. Otherwise, the

way that questions are asked can overshadow the results (Brace, 2018). Therefore, it is recommended to conduct the designing process based on the steps required to be maintained in preparing questionnaires to reach the best possible results of the surveys. However, it should be noted that perfect result is impossible. These steps are listed in the next sections (Agrawal, 2010).

II. TYPES OF QUESTIONNAIRES

There are two common applicable types of questionnaires and a combination of those types. These types are known as structured-questionnaire and unstructured-questionnaire, and the mixture is recognized as quasi-structured. In the first one, a specified and clear pattern is employed using sequence questions. They are pre-coded and are used in the majority of data collection processes. They possess many merits as they are easy-to-administering and encompass fewer discrepancies. Also, answers are more consistent that makes data management easier.

On the other hand, unstructured types use open-ended questions as well as opinion-types. These types are more applicable in focus-group interviews. There are vast possibilities for the answers, and all of them cannot be easily pre-coded.

Another type considered as quasi-type questionnaire employs structured type in most of the questions; however, it applies some unstructured questions as well. They completely do not cover answers which are not feasible to enumerate (Acharya, 2010). These two main types are defined in more detail when the steps of designing a questionnaire are reviewed.

III. PROCESS OF QUESTIONNAIRE DESIGN

After recognizing the fundamentals of the questionnaire, the main steps that should be considered in designing a questionnaire are examined in the following sections. These steps are discussed using several questions that should be addressed in this process (Taherdoost, 2021). Figure 1 shows the main steps simply.
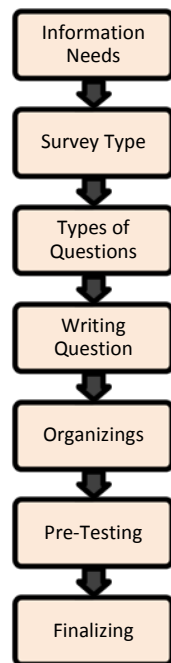
Fig. 1 Steps of Designing a Questionnaire

A. What Information is Required?

There are both different research questions and hypotheses that need to be addressed as the aim of the research. The hypotheses are developed based on the reasons or solutions of the problems using different assumptions. Research questions; however, are more applicable in practical research aiming to face problems or uncertainties regardless of applying assumptions (Taherdoost, 2021). Thus, they are utilized based on focusing just on certain questions instead of a broad range of question possibilities. Table I shows the differences between research questions and hypotheses through employment of some simple examples.

These subjects including research questions and hypotheses and the nature of the study are fundamentals of a research study which helps you to recognize what information is needed to be collected during the surveys or other types of collection methods. Recognizing the required information is a critical part of designing a suitable questionnaire since what is required directly affects the questions to design (Agrawal, 2010).

TABLE I HYPOTHESIS AND RESEARCH QUESTIONS

Type	Example	Information Needed
Hypothesis	Do customers care about the quality of services more than the prices?	Customers' perceptions of the quality of services and prices.
Research Question	What do the customers care about?	The relative importance of goods and services

B. How Do You Aim to Conduct Your Questionnaire?

After recognizing required data for the study purpose, it should be decided that which kind of survey is more suited for the work. For this purpose, two general types of surveys should be applied which are shown in Figure 2.
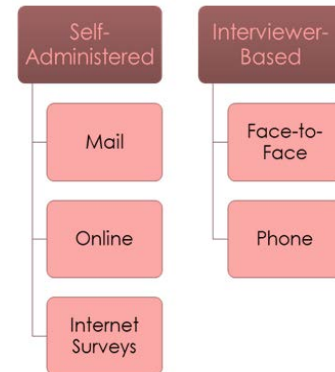

Fig. 2 Types of the Questionnaire/Surveys

Questionnaires are conducted in two general ways including Self-administered surveys and Interviewer based surveys. The former includes mail, online, or internet surveys, and the latter includes face-to-face or over the phone with or without computer assistance. However, to choose the format of the survey, different factors should be considered such as the following.

1. *Properties of Target Population:* For example, face-to-face is more appropriate for respondents with a low level of education as they need an explanation about some questions, in contrast, middle-level managers can fill out online surveys easily.
2. *Costs:* The budget can overshadow the survey method. For example, face-to-face interviews are the most expensive methods.
3. *Time:* Face-to-face surveys are more time-consuming than mail surveys. Also, the most time-saving method is the web-based survey. Thus, when you are facing issues due to the time, both online and telephone-based surveys can be applied.
4. *Specific Objectives:* For instance, in case of using visuals or audios in a survey, either face-to-face or web-based methods can be applied (Agrawal, 2010; Taherdoost, 2016).

Generally, self-administration helps to save costs, implement surveys easily, and increase the confidentiality of interviewees; however, it is not enough based on the factors discussed above (Song, Son, & Oh, 2015).

C. What Type of Questions to Use?

This step is to identify the types of questions to apply in the questionnaire to measure the constructs. These constructs can be a diverse range of subjects from satisfaction with the goods to the reactions of customers against the quality of

the services. This is critical to discover what you need to measure through the survey and by using the questions. Therefore, identifying the details of the constructs is important in different cases such as when considering the incomes of the respondents that you need to clarify the type of income you want to measure which can be considered as income before or after tax. Furthermore, the points that must be considered in providing the questions and response choices are also discussed in this section.

When it is determined what to measure, then it is time to examine the types of questions (Agrawal, 2010). We discussed the types of questionnaires based on the types of questions used as structured or unstructured types and their mixture (quasi-structured). The main categories are also applied herein categorizing the questions. Thus, types of questions can be structured (close-ended) or unstructured (open-ended). Here, in fact, the existence of options provided to answer the questions is the basis of categorizing. However, it can also be added that, in case of just considering the question, these types can be described differently as well. For example, consider the following checklist which respondents are asked to choose between the options:

"Food/Sufficiency/Management in Insufficiency" This is an unstructured question, as there is no fixed question wording, and the interviewer may ask participants manifold questions which can overshadow their responses (Acharya, 2010).

1. Open-Ended and Closed-Ended Questions

Questions are commonly divided into two broad categories: close-ended and open-ended questions. Researchers need to decide about using trough which kind of these terms at first steps while designing the questionnaire. Open-ended questions provide the opportunity of using their own words for the respondents; however, using close-ended questions limits the possibilities of true answers by using a set of specific answers. Nevertheless, the majority of questions are selected as the close-ended categories (Taherdoost, 2021). Sometimes it is better to use open-ended questions to gather the opinion of the respondents in the best possible way.

When applying open-ended questions, the researcher should also use specific methods to analyze the gathered responses. Different coding schemes may be required based on grouping the responses in the relative chosen categories provided by the coders. These processes can be complicated procedures that require both high interview time, and cost of conducting. Furthermore, the interviews can face many difficulties when recording the answers. However, coding is not required in open-ended questions when gathering quantitative constructs such as the number of visits, and this method can be very useful which avoids the procedure errors happening in case of applying close-ended types in these situations. Thus, applying open-ended questions is preferable to the other types when asking about quantities (Krosnick, 2018).

Close-ended questions, on the other hand, use different schemes as the possible answers ranging from checklists to multiple choices and rating scales. They are the most preferable types of questions in the self-administrated questionnaires as answering them does not usually lead to difficulties, and the requirement for assistance can be less seen. Also, when collecting constructs or subjective data is complicated, these questions can enable respondents to face the issue of expressing their feelings.

The responses can be also limited when researchers aim to gain a specific range of responses (McDonald, Coronado, & Johnson, 2003). To sum, when constructing close-ended questions is the issue, analyzing the open-ended questions is the main challenge. Open-ended and close-ended questions were reviewed above. However, another point that needs to be considered is the scaling and rating format of questions. Rating formats are categorized into three main types which are discussed in the following:

a. Matrix Type of Questions: In fact, matrix questions are the format of arranging questions which gives the opportunity of gathering multiple answers to more than one participant or element. They are provided in the form of tables including titled information without detailed description such as age, sex, religion, etc. which can be useful when you just need multiple information from different individuals. However, data entry and analysis issues can also be faced. This format is also known as battery questions.

b. Ranking Type of Questions: Ranking is a great method to ask the responses to add value ranging from lowest to highest to the variables which provide the opportunity for quantity-based judging. For example:
Score the performance of your literacy teacher, give the score in full marks 20.

c. Scaling Type of Questions: The main method of quantifying the responses is scaling. These methods help to shape the opinion-based or open-ended questions. When some issues are not quantifiable, scaling supports the researchers to gain the general results and validity of their gathered data as well. Generally, the scaling process provides a combined measure including diverse terms with an empirical or a logical structure. In fact, scale, as a branch of measuring, is a combination of categories or score ranges, and scaling is the procedure of giving scores to the objects while aiming to yield the measures of construct. In other words, scaling is the accurate measuring of complex and abstract objects which provides a coherent order for the arrangement of the possible answers or opinions about qualitative constructs such as attitudes. Therefore, using scales respondents can fit themselves or their answers to one of the scaling points. Using the scaling method in self-esteem and authoritarianism constructs is between the main applications for measuring qualitative constructs using quantitative units; however, it is not a simple process and requires addressing difficult research tasks as well.

The main scaling types are as the following.

i. Thurstone Scaling: This type also is known as equal appearing which simply groups and arranges the respondents' answers. Consider when grouping the households' activity types in different categories using a set of stages to obtain the final divisions, as an example. If you give the same importance to all of them without the possibility of canceling one by others, it considers as an equal appearing. But, even here you can rank them when you add a factor such as income and aim to identify the categories based on the priority of high income. In this situation, you are able to rank them based on different ranges for example 1 to 9 for the less to the highest incomes.

ii. Guttmann Scaling: Guttmann Scaling is also called cumulative as all of the alternatives possess the same idea or inherent attribute as the previous one meaning that the cumulative nature of the response, alternative, is observed in the previous one as well. Thus, subsequent answers are stemming from the previous responses and when you are agreed with one of the subsequences, there is no question about accepting the previous ones.

iii. Likert Scaling: It is a summative scaling type that arranges the opinions in a specific range from extremely positive to extremely negative. For example, the response options can be considered as: "Fully Agree, 2. Somewhat Agree, 3. Neither Agree nor Disagree, 4. Somewhat Disagree and 5. Fully Disagree" These options can be arranged using either horizontal or vertical fashions in the questionnaires. However, it is also found that horizontal types seem more reliable to the respondents when well-educated or self-administration questionnaires are conducted (Acharya, 2010).

After recognizing types of scaling, other points which should be considered by the researchers are the ways of labeling the points, and the number of the points used in scales. The approach to label the options can be selected between one of the three following alternatives.

Unipolar or bipolar scales use numbers as the options, on the other hand, verbal scales use a range of phrases as the responses on the scales such as very-happy, happy or not-happy. Unipolar scales use a range of numbers for example from 0 to 20; however, bipolar scales can be selected such as a scale from -5 to +5 (Lietz, 2010).

Different alternatives are suggested by different researchers in terms of the number of points. For example, the number of points for Likert scaling, and Thurstone usually are considered 5 and 11 points; respectively; however, other researchers have also reported different number of points (Krosnick, 2018).

Generally, there is no rule and standard since the number of points can vary in different studies; however, this number is commonly chosen between 5 to 7-point as this range is easily rescaled which can help to facilitate the comparisons. It can also be noted as a comparison that for the numbers between 5 to 7-point scaling 7-point increase the differentiation of responses which can make it more reliable than 5-point (Taherdoost, 2017, 2019).

Furthermore, it has been demonstrated that the appropriate number of points can be affected by the questions' content. That is to say, when the participants should answer the questions including absolute judgmental subjects, less numbers of the points such as 5-point is more suitable, and in contrast to the studies on abstract judgments, longer points such as 7 to 9-points are preferred (Krosnick, 2018; Lietz, 2010).

2. Types of Responses

Types of the questions and the formats of the rating have been discussed. The differences between using manifold types of questions should be investigated as well as the types of answers to consider.

a. Yes/No Options or Multiple-Point Scale?

Yes/no options can be appropriate in case of gathering quite definite answers. For example, when a question like "do you smoke cigarettes?" is asked, the yes/no answers can provide adequate information regarding the truth. In this situation, more details are not required. However, if you aim to ask opinions such as regarding psychological aspects like attitudes and intentions, then, yes/no options are not enough as they do not offer an appropriate answer range.

b. Single or Multiple Responses and Single or Multiple Questions?

The opportunity of selecting more than one option to the respondents should be provided in time of necessity. On the other hand, sometimes it is helpful to ask multiple questions in different ways to gain more reliable answers, check the consistency of answers, and obtain manifold aspects of deal proneness (Taherdoost, 2017).

c. Considering a Neutral Option

These options by providing mid-points such as might, might not, etc. help the respondents to answer the questions when they are not sure about their answers, and also assist to save the thinking time for responses (Agrawal, 2010).

d. DK ("don't know") Options and Filter Questions

When the respondents do not have enough knowledge to answer some of the questions, providing these options can be helpful to satisfy the respondents. To address this central issue, some researchers recommend adding DK as a routine to the options (Krosnick, 2018). Furthermore, adding this option explicitly even when the responding is volunteered

can increase the probability of choosing this option by respondents (Lietz, 2010). On the other hand, researchers can also filter the questions to exclude the respondents who do not have enough or appropriate knowledge about a question. Thus, participants answer the questions based on meeting some criteria conducted by researchers.

e. Demographics-Based and Filter Questions

People commonly do not prefer to add the precise details of their personal information such as age and income and eventually asking questions about these subjects can demotivate them. To address this issue, it is recommended to apply ranges instead of exact values for the options (Agrawal, 2010).

3. What Are the Points of Wording the Questions?

The main types of questions and different response options have been discussed. In addition, some points were added for choosing the types of questions. In this step, a list is provided to identify the main rules about what to do or avoid when writing the questions and answer options. This step can directly overshadow the quality of the results achieved from a survey.

The most important reason is that wording can affect the respondents' understanding of the questions. For this purpose, the main points that must be considered when writing question areas are as the following.

a. Do not write long and burdensome questions since it is time-consuming for the respondent and needs effort.
b. Eliminate ambiguous options as the meaning of these options can vary based on the considered reference points.
c. Define the questions clearly and with details to assist respondents in easily answering the questions without being confused.
d. Do not use biased questions or questions which are based on assumptions since it can mislead or push the participants toward an option (Agrawal, 2010; Malhotra, 2006).
e. Avoid technical words and slang that are not easy to understand for all respondents. Questions should be written as simple and clear as possible (Krosnick, 2018; Taherdoost, 2017).
f. Avoid vague quantifiers which may confuse the respondents such as frequently and usually since they cannot provide a clear definition and the number of times and the periods should be specified clearly (Lietz, 2010).
g. Avoid questions with no/not-relative objectives. The objective of the questions should meet the purpose of the research.
h. Do not use double negative or barreled questions because they mean positive but sound negation to the question which leads to the confusion of the individuals.

The following points are also recommended.
a. Use short and one-sentence questions when possible (Acharya, 2010).
b. Avoid using concrete and specific wording (Krosnick, 2018).
c. Focus on the current/recent happened attitudes in the questions.
d. Use higher numeric values for agree-terms than disagree-options (Lietz, 2010).

D. How the Questions should be Organized?

In this stage, it is time to put the questions in the construct of the questionnaire. In this step, the general construct of the questionnaire includes the introduction and the order of the questions. Thus, the main points to consider in achieving a good construct are discussed in this section.

1. Prepare an Introduction

First of all, an introduction should be prepared that encompasses several critical points including the purpose of the study, guaranteeing the respondents' confidentiality, sources, and the way to use responses. In addition, in the mailed types of questionnaire, the points made in the cover letter need to be reinforced (Taylor-Powell & Marshall, 1998).

2. Optimize the Order of Questions

Different points should be considered when putting questions in the questionnaire. The main points that to mentioned to identify the order of questions are listed in Fig. 3 and discussed following.
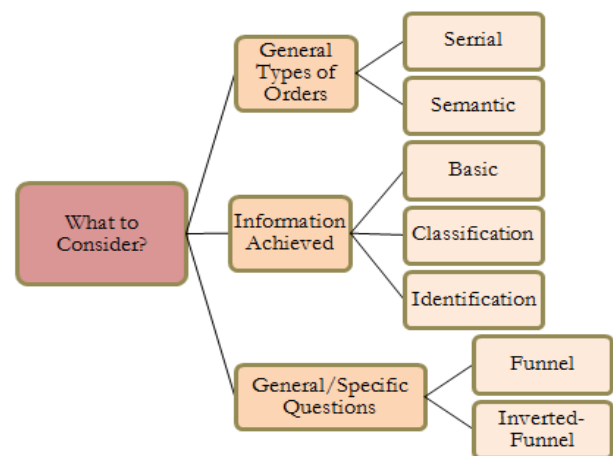

Fig. 3 Important Concepts for Organizing the Order of Questions

a. General Types of Ordering Questions

Generally, two main types can be used to order the questions including serial and semantic orders. When questions are located in the sequence of items, a serial order can be used; however, in case of locating them in the sequence of meaning, semantic type can be used. Although the type of order cannot affect the meaning of a question, it

can affect the cognitive procedure, and therefore the measurement process will be influenced as well.

Serial order is likely to affect the motivation of the respondents and aid their learning process; however, it may also lead to fatigue. This type uses questions that can promote the willingness of the respondents to the beginning of the questionnaire. These items can also positively overshadow the perceiving of people about the main object of the survey by using the questions strongly connected to the topic in this part. The questions are chosen neither sensitive nor difficult. Then, more demographic or background questions are used at the end. On the other hand, semantic order uses a coherent flow of the questions. That is to say, related subjects are grouped and come together. Thus, this type possesses the advantage of facilitating the cognitive processing of the respondents since it specifies the meaning of question and makes it easier to recall from memory (Krosnick, 2018).

b. Types of Information Achieved

The types of the information obtained from the questions can be categorized as the following.

i. Basic: The questions aim to provide information about the main research subject directly.
ii. Classification: It includes demographic and socio-economic information. This helps when you aim to analyze the findings based on the respondents' groups.
iii. Identification: Names, telephone numbers, and the respondents' addresses are included in identification information which is used for example to verify the interviewed participants or to remit promised motivations.

c. General or Specific Questions

Another point that can be mentioned in the order of questions is whether the questions are put from general to specific ones or based on an inverted format. The former approach called the funnel approach can avoid biases. This approach starts with the general or board questions and then uses narrow questions about a similar topic that can affect the shape of funnel. The funnel approach is more common to employ; however, others can be also utilized in some specific situations which are discussed in the following (Malhotra, 2006).

d. Points for the Order of Questions

After identifying, the order, approach, and information types that are discussed above, some rules recommended by the researchers are provided which can optimize the process of ordering the questions in the questionnaire. The main part of these points is based on the combination of the types categorized above. These important points are as follows.

1. Put easy questions in the first parts.
2. Group-related questions (Krosnick, 2018).

3. Ask questions about the opinion of the participants as an opener.
4. Put the questions related to the topic first as basic information and then add the classification and identification information; respectively.
5. Commonly use funnel approach, and order the questions about the same topic from general to more specific ones.
6. Use the inverted-funnel method when either there is no clearly formulated viewpoint about the subject for participants, or there is a reference frame lacking for questions regarding the general subject for them (Malhotra, 2006).
7. Place the sensitive questions at the end of the questionnaire.
8. Add important and interesting questions at the beginning part.
9. Gain a natural flow of the questions among the questionnaire (Krosnick, 2018; Taylor-Powell & Marshall, 1998).

E. What are Properties of the Physical Appearance of the Questionnaire?

The physical appearance of the questionnaire is also another significant point that should not be underestimated. Different factors affect the quality of the appearance of the questionnaire including the font of the questionnaire and instructions provided in each section. A well-organized questionnaire together with these parts should be mentioned to gain a questionnaire that is both pleasing to the eyes of the respondents and also not hard to follow and complete (Taylor-Powell & Marshall, 1998). Also, the importance of precoding the questionnaire is discussed at the end of this section.

1. Font of the Content

There are both merits and demerits if to use a small font in the questionnaire. That is to say, using small fonts in the face-to-face interviews can encourage the respondents as they do not face a small book-size questionnaire which seems to be so time-consuming. However, it is also not a concern when the survey is not conducted face-to-face. On the other hand, different demerits overshadow the quality of the interviewers' tasks. Some points are as the following:

a. Small fonts are difficult to read and follow.
b. Interviewer errors can be seen when a crowded layout is used.
c. It can also cause mistakes to find the next questions and lead to losing the participants' answers.
d. Pauses can be seen which overshadow the time of the process.

All above considerations can influence the quality of the information gathered, and finally the results of the survey. To address these issues, an optimal range of font size is recommended by researchers as 10 to 12 points; however,

for the main key instructions, larger fonts are also can be applied. It is also recommended to use bold, italic formats, or underline words to attract interviewers to the main points (Brace, 2018).

2. Providing Instructions

A survey cannot be completed by the respondents unless the instructions are provided for each section clearly. These instructions are given based on the type of the questions (open-ended, multiple/single answer, etc.). This point is important as can overshadow the responses and cause errors.

3. Importance of Precoding the Answers

In coding processes, the numbers are assigned to the categories of responses in order to use them in the analyzing process. On the other hand, if computers are utilized to gather data, it is vital to use pre-coded responses for the close-ended questions. This can be optional for mail surveys; however, it is recommended since it can be helpful in data collection and generation of data files together which makes this format more time-consuming. In this situation, to make tabulation easier add the answer blanks at the same place on the page (Acharya, 2010; Agrawal, 2010).

F. How to Pre-Test Your Questionnaire?

Pre-testing is a very important and essential step, and directly affects the quality of the questionnaire. In this step, you need to conduct the survey using a small number of participants as the target sample. The number of participants can vary; however, commonly, between 15 to 30 respondents are adequate. Additionally, the participants in this step should be chosen similar to the main target groups in terms of background, educational levels, interest, and attitudes, as well as the amount of their familiarity with the subject. Thus, different aspects of the questionnaire such as wording, the flow and the sequence of the questions, format, and the content of the questions should be considered at this level (Malhotra, 2006).

The main objective is to realize whether the participants are able or willing to respond to questions. Another target is to ensure the matching of the target of the researcher by designing each question, and what the respondents add as the answers. For this purpose, researchers need to address several questions which are applicable to recognize lack of the questionnaire. Then, these lacks can be addressed to improve the quality of the questionnaire. The questions are listed following.
1. Do the questions measure what they aim to measure?
2. Can the whole respondents or the filtered ones understand questions? Are any hard-to-understand questions used? Check the special words and technical phrases.
3. Are any offensive questions used?

4. Can the participants provide all of the information required?
5. Is there any question that people do not prefer to answer?
6. Are there questions that disrupt the natural flow, or are not in a suitable place?
7. Are there questions generating socially desirable responses?
8. Are the instructions clear and easy to understand?
9. What are the questions that respondents may hesitate to provide the accurate answer?
10. Does the questionnaire make a positive intention to the respondents at all?

Finally, the feedback can be used as valuable findings to revise the questionnaire (Agrawal, 2010; Taylor-Powell & Marshall, 1998).

G. When to Finalize the Questionnaire?

The process of fixing the questionnaire was discussed considering different points to achieve the final revised draft. This process may need several iterations and rewritings as well. Then, the questionnaire should be finalized. For this purpose, the following tasks should be investigated before finalizing the questionnaire.

1. First, whether the information obtained from the survey can address the information desired listed in Table I based on hypotheses or research questions.
2. Then, whether the survey can cover the information likely to be generated for addressing the research question or testing the hypotheses.

It can be seen that after revising, the questionnaire does not cover some aspects, or in contrast, some questions are not necessary. In this situation, the questions required should be added or eliminated based on the necessity before finalizing the questionnaire (Agrawal, 2010).

IV. WHAT IS RESPONSE RATE AND HOW TO INCREASE IT?

Even if all the previous steps are considered in the questionnaire, there is the possibility of not receiving a reasonable number of responses. It is required to assess this concept because the sample needs to be a good representative of the population. This subject is investigated by the concept of response rate. Response rate is the number of obtained responses divided by the total number of the conducted surveys. Increasing the response rate can decrease the errors by achieving a higher sample size. However, this factor is not a priority compared to the non-biased samples since biased samples even with high response rates are likely to affect the findings negatively by adding non-sampling errors. There are some major points to employ aiming to enhance the response rate as listed in the following.

1. Send notifications before the real survey.
2. Send reminders or call them back when you do not get a response.
3. Motive respondents by using different rewards, considering charity donations, and preparing a summary of results.
4. Identify the aim of the study and the sponsors.
5. Assure their confidentiality and privacy first, and add a similar promise at the end in web-based ones (Agrawal, 2010; Brace, 2018).

V. ETHICS ISSUES

The willingness of individuals is necessary for conducting surveys and providing the primary data required for research. Thus, regardless of their willingness, you are not allowed to ask for their cooperation and time to gather data. Many countries have adjusted different laws to ensure the protection of participants. For example, Data Protection Act 1998 in the UK is adopted for this purpose.

These laws are not similar among different countries, and the writers of the questionnaires need to consider the laws of their countries to ensure whether the questionnaire complies with their laws. In addition, when in case of aiming to investigate ethical issues, you need to consider both respondents and clients. For this purpose, the general rules about the rights of both sides are reviewed in the following.

A. What are the Responsibilities of the Participants?

The rights of the respondents should be secured and ensured in both types of surveys including self-administrated and interviewer-based. For doing this, the following point must be mentioned to acknowledge them first.

1. Include the name of the organization;
2. Include the broad field of study;
3. Inform them why this field is sensitive;
4. Include whether the data is used or held confidentially, or not;
5. Include the estimated length of the survey;
6. Inform whether any cost is imposed on them, or not;
7. Inform whether the interview is recorded.

This kind of information can help the respondents to decide about their willingness for participating in the study simply. Regarding confidentiality, as an example, is one of the main concerns of the people. In case of informing respondents that the data will be used solely for data analysis, you can face their concerns and encourage them. Besides, if the research is not confidential, the situation should be clarified for respondents as well. However, avoiding to clearly mention that the study is not confidential, and aiming to mislead respondents is against the laws. In addition, some rules are required to be considered during conducting the surveys. For example, it is essential to remember the voluntary nature of the surveys. Respondents are permitted

to refuse to answer questions when they wish. They can also withdraw whenever they want. However, it is the art of the interviewers to minimize these conditions and make an effective relationship with the respondents and motivate them, but they also should respect their decision if they refuse to continue.

B. What are the Responsibilities to the Clients?

In preparing a questionnaire, not only the rights of the participants should be respected but also the rights of the clients are essential to be considered as well. They need to address their duties with designing a questionnaire with no biases and maximum efficiency to gain accurate information as far as possible. The client needs to ensure that the questionnaire can fit the object of the research and is permitted to comment the questionnaire, and the quality controls usually should be signed by the clients as well. Therefore, using questions without the agreement of all clients is unethical (Brace, 2018; Singer, 2008).

VI. CONCLUSION

Questionnaire design is a critical part of the surveys which can affect the results directly. For this purpose, several points should be considered to conduct this important process. This paper aims to investigate how you can design an appropriate questionnaire for a study purpose. The main steps to maximize the quality of a questionnaire were highlighted. The process is shaped based on the purpose of the study which is determined when deciding about the hypotheses or research questions, and what you need to gain to answer and address them. This step is the main part of your design which can overshadow the results of the whole process. In addition, the main points in designing, writing, and organizing the questions were also listed in this paper. Finally, the response rate and ethical issues were reviewed shortly.

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